

TECHNICAL INFORMATION EXCHANGE

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OPERATOR TEACHING OUTLINE -

IBM 2260

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This paper contains a teaching outline for training IBM 2260 operators. The outline follows a step-by-step method and includes student handouts, off-line practice problems, and an on-line practice problem.

The coding will be left to the reader of this paper, as a program tailored to the installation involved would be more appropriate.

For IBM Internal Use Only

INTRODUCTION

This outline was written to be used to teach customer personnel the use of the IBM 2260 Display Station. It is intended as a guide for such customer classes.

The outline was written on the basis of the IBM 2260 being equipped with the non-destructive cursor attachment. If this attachment is not available, the outline will have to be changed.

Any references to technical properties of the IBM 2260 are correct as of the date this paper was written. Any changes that occur must be included by the user.

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2260 OPERATOR TRAINING CLASS OUTLINE

I. Scope

- A. The scope of this class is to introduce you to the IBM 2260 display station and to train you to operate the 2260.
- B. This class will consist of three sections
 - 1. Classroom
 - a. Introduction to the IBM 2260
 - b. Features of the IBM 2260
 - c. Operation of the IBM 2260
 - 2. Laboratory Practice
 - a. Off-line practice
 - b. Demonstration program practice

II. Classroom Session

- A. Introduction to the IBM 2260 display station
 - 1. The 2260 is a visual TV-like display, incorporating a keyboard (pass out line drawing of 2260 and show foil)
 - 2. Use of the IBM 2260
 - a. One use is to show on the screen of the IBM 2260 what is stored in your computer. This information may then be changed or corrected, if needed, and returned to the memory of the computer
 - b. Complete records may also be both entered and removed by using the IBM 2260.
- B. Features of the IBM 2260
 - 1. Twelve lines of forty characters each can be displayed
 - 2. A total of sixty-five characters can be displayed on the screen (show foil #2)
 - a. All twenty-six letters of the alphabet, A-Z
 - b. The ten numeral 0-9
 - c. Twenty-five special symbols
 - d. Four control characters (show foil #3 and give handouts on characters)

- 3. A keyboard is present to enable entry of both alphabetic and numeric information. (show foil #4 and give keyboard handouts)

C. Operation of the IBM 2260

- 1. The off/on and brightness control switch is located on the right side of the unit. (show foil of 2260 again)
- 2. Control symbols
 - a. Cursor - Automatically inserted. It appears as a vertical line below the character line and immediately to the left of the next displayable position. It can be moved about the display field without destroying any characters.
 - b. Start Manual Input (start MI) - This symbol appears as  on the screen. It indicates the position at which information will start to be entered into the computer. When the changed or new information is transferred to the computer, the start MI symbol is deleted, indicating a successful transfer.
 - c. New Line (NL) - This symbol appears as  on the screen. This symbol prohibits the transfer of information between the symbol and the end of the display line.
 - d. Check Symbol - This symbol appears as  on the screen. This symbol indicates that an error has occurred in transferring a character from the computer. The character that is in error is replaced by this symbol.
 - e. End of Message (EOM) - This symbol appears as  on the screen. When information is to be entered into the computer, the cursor is replaced by this symbol, denoting the end of the message.
- 3. Keyboard - use of the character keys, just like a typewriter. (Show foil of keyboard and pass out copies)
 - a. Single character keys will display the character in the next available display position and will reposition the cursor. If the shift key is depressed, the Check Symbol will be displayed.
 - b. Double character keys - The action of these keys is the same as the single character keys, except that when the shift key is depressed, the character on the upper half of the key is displayed.
- 4. Keyboard - Use of the control keys (pass out control key handout)
 - a. Shift - This key has two purposes. One is as previously mentioned. The other is to alter the effect of the control keys

b. Space/Erase bar
Advance

- i. Shift not depressed. This bar causes the cursor to move forward one position and does not alter the display
- ii. Shift depressed. The character to the right of the cursor is replaced by a blank, and the cursor is advanced one position.
- iii. Show example on E(1) foil

c. Backspace key - The cursor is backspaced one position. The display is unchanged. The shift key has no effect on this operation. (Show example E(2) on foil)

d. Erase display key

- i. Shift not depressed. This causes the check symbol to be placed in the next display position and the cursor to be advanced to the next display position.
- ii. Shift depressed. This causes the entire display to be erased and the keyboard to be restored. The cursor is placed at the upper left hand corner of the display area (the first displayable position)
- iii. Show example E (3) on foil

e. Start Key
Up

- i. Shift not depressed. The cursor is moved up one line on the display (if it is located at the first line, it is moved to the last line). The cursor remains in the relative position within the line.
- ii. Shift depressed. If a Start MI symbol is displayed, all of the information between the Start MI symbol and the cursor is erased, except for any information to the right of a NL symbol. The cursor is placed at the first display position following the location of the Start MI symbol. If a Start MI symbol is not present, one is entered in the next display position and the cursor is advanced one position.
- iii. Show example E (3) on foil

f. Enter key

- i. Shift not depressed. The Check symbol is placed in the next position and the cursor is advanced one position.
- ii. Shift depressed. The EOM symbol is placed into the cursor position. the information between the start MI symbol and the EOM symbol is transmitted to the computer, except for any information to the right of an NL symbol. The cursor then replaces the EOM symbol.
- iii. Show example E (4) on foil.

g. Print key

- i. Shift not depressed. The check symbol is placed in the next position and the cursor is advanced one position.
- ii. Shift depressed. The EOM symbol is placed in the cursor position and all information between the first display position and the EOM symbol is printed, except for any information to the right of the NL symbol. The EOM symbol is then replaced by the cursor.
- iii. Show example E (5) on foil.

h. New Line key
Down

- i. Shift not depressed. The cursor moves down one line and stays in the same relative position within the line. If the cursor is located at the bottom line, it moves to the top line.
- ii. Shift depressed. The NL symbol is placed in the next position. The cursor is moved to the first display position of the next line. If it is already at the bottom line, it moves to the top line.
- iii. Show example E (6) on foil)

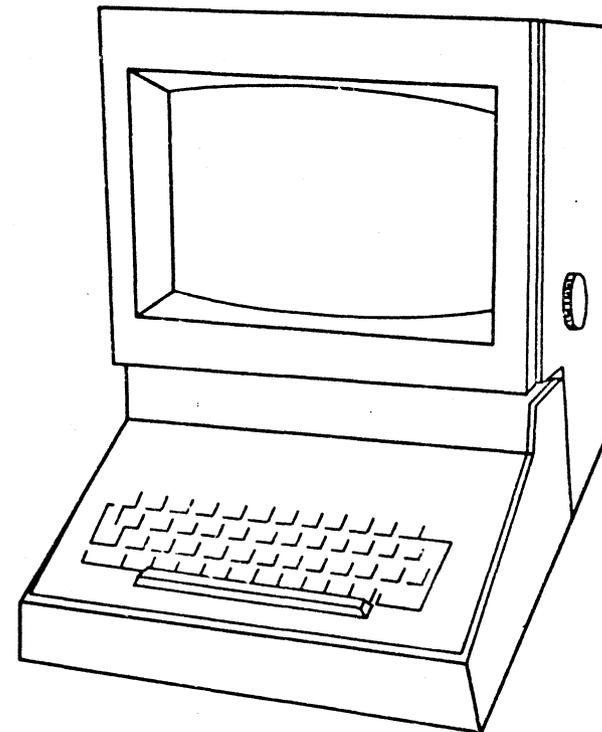
5. Review

- a. We have gone over the operation of the IBM 2260
 - i. Features
 - ii. Keyboard operation
- b. Any questions?

6. This concludes the classroom portion of this class.

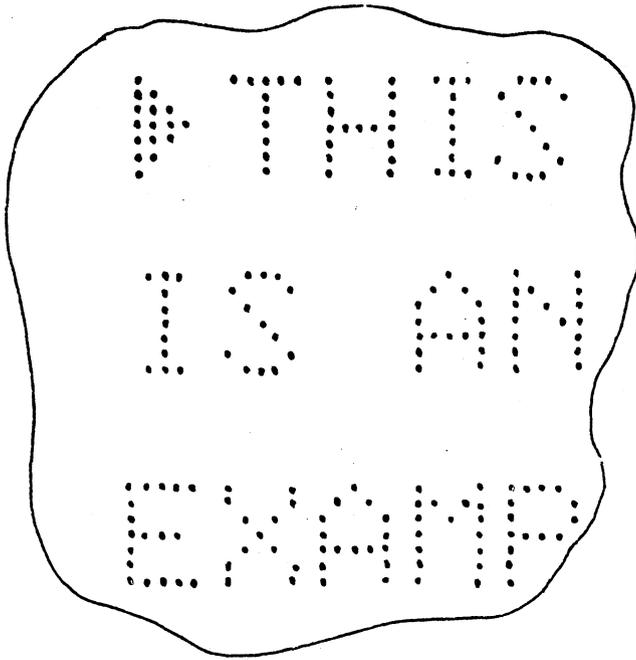
III. IBM 2260 Laboratory-Off Line

- A. This portion of the class will give you some practical experience in the use of the IBM 2260.
- B. Does everyone have his list of control key functions? (Hand out any necessary. Review their use-showing examples. Omit if this section is being given immediately after the classroom section)
- C. We will be doing a series of problems.
 1. The first two I will demonstrate.
 2. You will then do each of the problems.
 3. Pass out problems. Please read these problems, and ask questions about them.



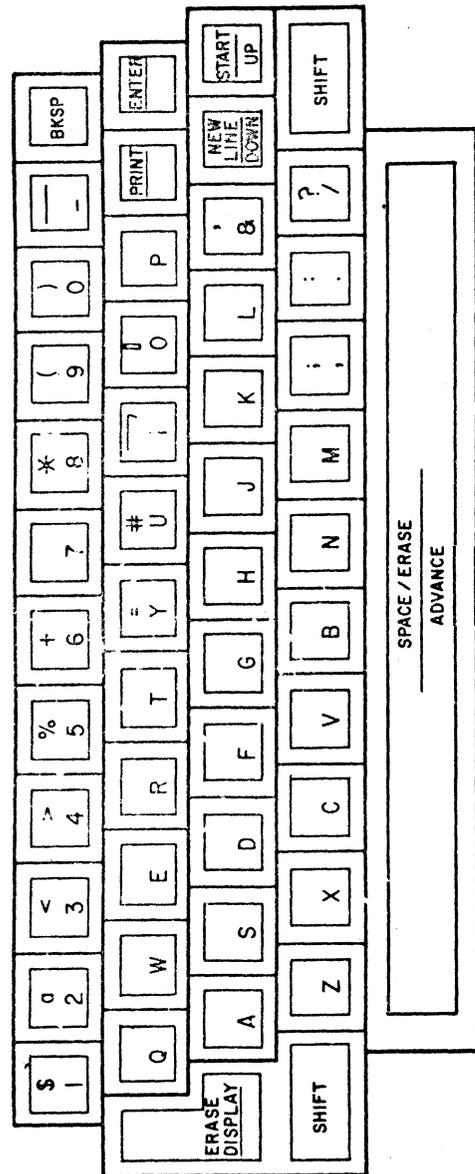
**IBM 2260
DISPLAY STATION**

2260 DISPLAY EXAMPLE



A	I	O	Y	6	Less Than	Logical Not	At Symbol
B	J	R	Z	7	Left Paren	Percent	Quote
C	K	S	Zero	8	Plus	Undercore	Equals
D	L	T	1	9	Vertical Bar	Greater than	Check Symbol
E	M	U	2	0	Dollar Sign	?	End Of Message
F	N	V	3	Hyphen Minus	Asterisk	Comma	Start MI
G	Q	W	4	Slash	Right Paren	Colon	New Line
H	P	X	5	Period	Semi Colon	Number Sign	Space

2260 ALPHAMERIC KEYBOARD



E (1) SPACE/ERASE
ADVANCE

A. SHIFT KEY NOT DEPRESSED

Before: IB,M
After: IBM,

B. SHIFT KEY DEPRESSED

Before: ,SAND
After: ,AND

E (2) BACKSPACE

A. SHIFT KEY NOT DEPRESSED

Before: I,N
After: ,IN

B. SHIFT KEY DEPRESSED
(Same as A. above)

E (3) START
UP

A. SHIFT KEY NOT DEPRESSED

Before: AND
N,OW
After: A,ND
NOW

B. SHIFT KEY DEPRESSED

Before (no "start MI"): GEM,
After (no "start MI"): GEM▶,

Before ("start MI" present): ▶ A. BAKER ▲CONSTANT
181,
After ("start MI" present): ▶ , CONSTANT

E (4) ENTER

A. SHIFT KEY NOT DEPRESSED

Before: ,NOW IS
 After: ,NOW IS

B. SHIFT KEY DEPRESSED

Before: JOHN JONES NAME
 341-87-9011 SOCIAL SEC. NO.
 After: JOHN JONES NAME
 341-87-9011 SOCIAL SEC. NO.
 transmitted to computer

E (5) PRINT

A. SHIFT KEY NOT DEPRESSED

Before: ,NOW IS
 After: ,NOW IS

B. SHIFT KEY DEPRESSED

Before: JOHN JONES NAME
 18101 S. Park ST. ADDRESS
 After: JOHN JONES NAME
 18101 S. Park ST. ADDRESS
 printed

E (6) NEW LINE
DOWN

A. SHIFT KEY NOT DEPRESSED

Before: H,ERE
 THERE
 After: HERE
 T,HERE

B. SHIFT KEY DEPRESSED

Before: CHICAGO,
 After: CHICAGO

CONTROL KEY-GUIDE

NON-DESTRUCTIVE CURSOR

Key	Shift Not Depressed	Shift Depressed
Shift	Provides the functions under "SHIFT DEPRESSED" column for control keys and allows the use of the upper character on the two-character keys.	
Space/Erase Advance	Advances the cursor one position with no change in the display.	Erases the next position and advances the cursor one position.
Backspace	Backspaces the cursor one position with no change in the display. If the cursor is located at the first position, it is moved to the last display position.	
Erase Display	The "check" symbol is placed in the cursor position, and the cursor is advanced one position.	The entire display is erased, and the cursor is placed in the first display position.
Start Up	The cursor moves up one line, keeping the same position within the line. If the cursor is located at the first line, it is moved to the last line.	If no "start MI" symbol is displayed, one is entered in the next position and the cursor is advanced one position. If a "start MI" symbol is present, all the data between the "start MI" symbol and the cursor (except for data to the right of any "new line" symbols) is erased. The cursor is moved to the display position after the "MI" symbol.
Enter	The "check" symbol is placed in the cursor position, and the cursor is advanced one position.	The "end of message" symbol is placed in the cursor position. All data between the "start MI" symbol and the "end of message" symbol (except for data to the right of any "new line" symbols) is transferred to the computer. After the transfer, the cursor returns to its previous position and the "start MI" symbol is deleted.

NON-DESTRUCTIVE CURSOR

Key	Shift Not Depressed	Shift Depressed
Print	The "check" symbol is placed in the cursor position, and the cursor is advanced one position.	The "end of message" symbol is placed in the cursor position. All data between the first display position and the "end of message" symbol (except for data to the right of any "new line" symbols) is printed by the printer. After printing, the "end of message" symbol is replaced by the cursor.
New Line Down	The cursor moves down one line, keeping the same position within the line. If the cursor is located at the last line, it is moved to the top line.	The "new line" symbol is placed in the next display position. The cursor is moved to the first position of the next lower line (if at the last line, it moves to the top line.) Any data that was between the "new line" symbol and the end of the line is not changed.
Single- Character	The character is displayed in the next display position.	The "check" symbol is placed in the cursor position, and the cursor is advanced one position.
Double- Character	The character on the lower half of the key is displayed in the next position.	The character on the upper half of the key is displayed in the next position.

1. Display your name on one line, your street address on the next, and your city, state, and zipcode on the next.
2. Change the street name displayed in problem 1 to Commercial. Show two ways to change it.
3. Erase the display. Display the Start MI Symbol and display today's date. Then display the NL Symbol. After the NL Symbol, display Date.
4. Erase the information between the Start MI Symbol and the NL Symbol without moving the cursor.
5. Display tomorrow's date and an NL Symbol. Now move down two lines and display your name followed by an NL Symbol. Display Name after the NL Symbol. Enter this information into the computer.
6. Erase display. Do problem 5 only; print the information rather than entering it into the computer.